



Du Pont (Australia) Ltd. A.C.N. 000 716 469
168 Walker Street North Sydney, N.S.W. 2060
Telephone (02) 9923 6111 Facsimile (02) 9923 6132
24hr Transport Emergency Number (02) 9963 1301 Medical Emergency 1800 674 415

MATERIAL SAFETY DATA SHEET

® DuPont Registered Trademark
N/R In Product Identification section means Not Regulated as a Dangerous Good and no UN number is allocated.

ISSUED DUPONT 09/03/04

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PRODUCT: DUPONT VELPAR® DF® HERBICIDE

Hazardous According to Criteria of NOHSC.

PRODUCT IDENTIFICATION

UN No: N/R Poisons: S6 (Fed)

Tradenames: Velpar® DF® herbicide
Manuf.: DuPont
ManCode:

Use:
For the control of certain sedges, perennial grasses, broadleaf and woody weeds in *Pinus radiata* forests and industrial weed control situations.

Ingredients: Hexazinone
Inert Ingredients
CAS No: 51235-04-2
Proportion: 75 %
25 %

Physical Description / Properties

Appearance:
Odour: Acrid (slight)
Colour: Tan (light)
Form: Dry flowable granule

Other Properties:
Bulk density: 0.49 g/cm³
pH: 8.4 (1% wt/wt in water)
Chemical Family: Triazine

HEALTH HAZARD INFORMATION

Acute Effects

Eye:
Hazardous by eye contact according to the criteria of NOHSC. In tests with rabbits, product caused conjunctival chemosis, conjunctival redness and corneal opacity. Positive irritant effects were present in 1 rabbit 21 days after treatment. Overexposure to hexazinone by eye contact may initially include eye irritation with discomfort, tearing, or blurring of vision.

Skin:
Not hazardous by skin contact according to the criteria of NOHSC. Significant skin permeation and systemic toxicity after contact appears unlikely. Not a primary skin irritant; not a skin sensitiser.

Inhaled:
Not hazardous by inhalation according to the criteria of NOHSC.

Swallowed:
Hazardous if swallowed according to the criteria of NOHSC. Ingestion may include abnormal liver function as detected by laboratory tests.

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**PRODUCT: DUPONT VELPAR® DF® HERBICIDE****HEALTH HAZARD INFORMATION: (Continued)****Chronic Effects**

Oral (rat): In a 2-year feeding study with the 90% powder, the no-observable effect level (NOEL) was 200 ppm; nutritional and body weight effects were seen in females at 1000 ppm and in both sexes at 2500 ppm. Biochemical effects were noted in both sexes at 2500 ppm. Oral (mouse): In a 2-year feeding study, the NOEL was 200 ppm. Decreased body weight gain was observed in both sexes at 2500 ppm and 10000 ppm. This effect was severe at 10000 ppm, the highest dose tested. Non-neoplastic liver effects were noted in males at 2500 ppm and in both sexes at 10000 ppm. Based on recent pathology review, hyperplastic liver nodules diagnosed at 10000 ppm when this study was initially conducted have been reclassified as liver adenomas. This effect was only significant among female mice in this dose group. This change reflects the current scientific consensus regarding the classification of this benign lesion in the mouse liver. Oral (dog): In a 1-year feeding study, the NOEL was 200 ppm. Reduced food consumption and body weight gains were significant at the high dose, 6000 ppm. These nutritional effects were associated with mild but reversible changes in haematological parameters at the high dose. Increased liver weights and other non-neoplastic liver effects as indicated by histopathology and changes in clinical chemical parameters were observed at 1500 and/or 6000 ppm.

Reproduction: (rat) In a 3-generation, 3-litter study with 90 % powder, no adverse reproduction or lactation effects were seen at any level; slightly depressed average weaning weights were noted in the second and third litters at the high dose 2500 ppm. A second rat reproduction study (2-generation, 3 litter study) was conducted at dietary doses ranging from 200 to 5000 ppm. There were no adverse effects on fertility. The NOEL was 200 ppm. Decreased food consumption, parental body weight gain and decreased offspring weights were observed at higher doses.

Teratogenicity: Not teratogenic or embryo-foetal toxic to rats by dietary administration at levels as high as 5000 ppm, the highest dose tested. Administration to rats by oral intubation resulted in a NOEL for maternal and foetal effects of 100 mg/kg body wt/day. When hexazinone was administered to rabbits via oral intubation, there were no teratogenic or embryo-foetal toxic effects at the highest dose tested, 125 mg/kg/day. The maternal and foetal NOEL's are considered to be 125 mg/kg.

Mutagenicity: Not mutagenic in Ames bacterial assay, Chinese hamster ovary cell point mutation assay, or rat liver DNA repair assay; positive in the *in vitro* Chinese hamster ovary cell cytogenetic assay but negative in the *in vivo* rat bone marrow cytogenetic assay.

First Aid

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Skin: In case of contact, immediately wash skin with soap and plenty of water. Wash contaminated clothing before reuse.

Inhaled: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Swallowed: If swallowed, and if more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac Syrup APF. Seek medical attention.

Advice to Doctor:

No specific requirements. Treat symptomatically.

Toxicity Data:

Acute oral LD₅₀ (rat): 1310 mg/kg
Acute dermal LD₅₀ (rabbit): > 5000 mg/kg
Acute inhalation (4 hr): > 5.2 mg/L

PRECAUTIONS FOR USE**Exposure Standards:**

TLV (ACGIH): None established
AEL* (DuPont): 10 mg/m³, 8 hr TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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**PRODUCT: DUPONT VELPAR® DF® HERBICIDE**

PRECAUTIONS FOR USE (Continued)

Engineering Controls:

Use only with adequate ventilation.

Personal Protection:

Avoid contact with eyes and skin. **DO NOT** inhale dust or mist. When using the product, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow length PVC gloves and goggles.

Flammability:

Not a fire or explosion hazard.

Environment:

May be hazardous to aquatic organisms.

Hexazinone:

96 hr LC₅₀ (bluegill sunfish): > 370 mg/L

96 hr LC₅₀ (rainbow trout): > 320 mg/L

96 hr LC₅₀ (fathead minnow): 274 mg/L

SAFE HANDLING INFORMATION

Storage and Transport:

Store in cool, dry, well ventilated area. Store product in original container only. Keep container tightly closed. **DO NOT** contaminate water, other pesticides, fertiliser, food or feed in storage.

Spills and Disposal:

NOTE: Review FIRE/EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dyke spill. Prevent liquid from entering sewers, waterways or low areas. Shovel or sweep up. If spill area is on ground near valuable plants or trees, remove top 75mm of soil after initial cleanup. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State, and Local regulations. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. **DO NOT** flush to surface water or sanitary sewer system.

Dispose of emptied bag in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

Fire/Explosion Hazard:

Not a fire or explosion hazard. Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air. Evacuate personnel to a safe area. Wear self-contained breathing apparatus and full protective equipment. Suitable extinguishing media: water spray, dry powder, foam, carbon dioxide (CO₂). On small fires, if area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard. Stable at normal temperature storage conditions. Decomposition will not occur. Polymerisation will not occur. Incompatible or can react with strong bases.

Reactivity Data:

Stable at normal temperatures and storage conditions. Decomposition will not occur. Polymerisation will not occur.

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**PRODUCT: DUPONT VELPAR® DF® HERBICIDE****REGULATORY INFORMATION**

Packaging and Labelling: S6 (Fed)
Contains: Hexazinone 75%

Risk Phrase:
R22 Harmful if swallowed. Harmful in contact with eyes.

SOURCE INFORMATION

Technical Data:
Source MSDS: US-DU003073, revised 25/06/2003

ADDITIONAL INFORMATION

Contact Points:
For sales, technical, and product related enquiries contact DuPont's North Sydney office on (02) 9923 6111. Outside the Sydney metropolitan area 1800 252 997 is a toll free number to North Sydney Office. To assist communications, ask for the Customer Service, Technical, or Marketing personnel for the product family relative to the inquiry.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.